<u>REMARKS/ARGUMENTS</u>

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Initially, with respect to the drawings of the present application, item 10 of the Office Action Summary is blank. Applicants respectfully request confirmation that the drawings are approved, or an indication of informalities.

Claims 1-46 are currently pending in this application, Claims 1, 15, 31-35, 38, 39, 40-42, 45, and 46 are amended by the present response.

In the outstanding Office Action, Claims 1-28 and 31- 46 were rejected under 35 U.S.C. §112, second paragraph, as indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention; Claims 1, 2, 4, 6, 30-33 were rejected under 35 U.S.C. §102(b) as anticipated by <u>Isono et al.</u> (U.S. Patent No. 4,872, 065, hereinafter <u>Isono</u>); Claims 15, 16, 18, 20, 29, 38-40[1] were rejected under 35 U.S.C. §103(a) as unpatentable over <u>Isono</u> in view of <u>Hoshino et al.</u> (U.S. Patent No. 5,283,681, hereinafter <u>Hoshino</u>); Claims 34 and 35 were rejected under 35 U.S.C. §103(a) as unpatentable over <u>Isono</u> in view of <u>Yoshida</u> (U.S. Patent No. 6,476,955); Claims 41 and 42 were rejected under 35 U.S.C. §103(a) as unpatentable over <u>Isono</u> in view of <u>Hoshino</u>, and further in view of <u>Yoshida</u>; Claim 45 was rejected under 35 U.S.C. §103(a) as unpatentable over <u>Kanno</u> (U.S. Patent No. 6,366,336) in view of <u>Isono</u>; and Claim 46 was rejected under 35 U.S.C. §103(a) as unpatentable over <u>Kanno</u> (U.S. Patent No. 6,366,336) in view of <u>Isono</u>, and further in view of <u>Hoshino</u>. Claims 3, 5, 7-14, 17, 19, 21-28, 36, 37, 43, and 44 were objected to as depending from a rejected base claim but, were otherwise indicated as including allowable subject matter.

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[1] As per a telephone discussion on December 7, 2004 with Examiner Pham, Claims 38-40 and not claims 38-33 were rejected under 35 U.S.C. §103(a) as unpatentable over <u>Isono</u> in view of <u>Hoshino et al.</u>

In response to the rejection of Claims 1-28 and 31- 46 under U.S.C. §112, second paragraph, Applicants amended Claims 1, 15, 31-35, 38, 39, 40-42, 45, and 46 as suggested on pages 2-5 of the Office Action without adding new matter. Therefore, Applicants respectfully submit amended Claims 1-28, and 31- 46 comply with the requirements of 35 U.S.C. §112.

Addressing now the rejection of Claims 1, 2, 4, 6, 30-33 as anticipated by Isono, that rejection is traversed by the present response.

Amended Claim1 is directed to a pixel clock generation apparatus that includes a detecting circuit detecting a time interval between two horizontal synchronization signals. A comparing part compares the time interval detected by the detecting circuit and a target value, and outputs a difference therebetween. A phase shift data generation part has a look up table storing a pattern of phase shift data for controlling a phase shift amount of a pixel clock, and reading and outputting the phase shift data from the lookup table based on the difference output from the comparing part. A high frequency clock generation part generating the pixel clock whose phase is controlled in accordance with the phase shift data output from the phase shift data generating part based on the high frequency clock generated by the high frequency clock generating part. This configuration allows for correction of a main scan dot position shift caused by environmental change with a high degree of accuracy.[2]

Isono teaches equally dividing the period t of a reference dot recording clock signal to generate N previously prepared dot recording clock signals.[3] In the cycle in which crossover of the crossover dot recording clock signal is performed, the pulse time width is lengthened, whereby the dot diameter formed in the cycle is larger than the standard diameter.[4] This is illustrated in Fig. 2(c) of Isono in which one dot in each cycle is larger than the other dots in

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[2] Specificaiton, page 7, lines 2-8.
[3] Isono, col. 4, lines 41-45.
[4] Isono, col. 4, lines 57-61.

the same cycle. Thus, Isono teaches solving the problem of dot misregistration by changing the size of one dot per cycle and not changing each dot. The amounts of dot misregistration are translated, by using a table, into data representing crossover timing and crossover phase direction. The data is only used to create dot recording clock signals that perform a crossover 16 times during one scanning (i.e., 10,000 dots).[5]

Claim 1 recites "…a phase shift data generation part having a lookup table storing a pattern of phase shift data for controlling a phase shift amount of a pixel clock…." Isono does not teach or suggest this element of Claim 1.

Fig. 10 of the present application shows a non-limiting example of a pattern of phase shift data. Data is shown for every PCLK. Isono teaches a table where not every PCLK has data. The table discussed in Isono only stores data necessary for performing a crossover 16 times during one scanning (i.e., 10,000 dots)[6] and this only changes the size of some of the dots as shown in Fig. 2(c). By having data for every PCLK, higher accuracy in correcting main scan dot position shift can be achieved because every pulse of the PCLK has data rather than only some.

In view of the above-noted distinction, Applicants respectfully submit that Claim 1 (and dependent Claims 2-14) patentably distinguish over Isono. Independent Claims 30 and 31 (and dependent Claims 32-37) are similar to Claim 1, and therefore, patentably distinguish over Isono, for at least the reasons given for Claim 1.

Turning now to the rejection of independent Claims 15, 29, and 38 as unpatentable over Isono in view of Hoshino, Applicants respectfully traverse the rejection. Independent Claims 15, 29, and 38 all recite "a lookup table storing a pattern of shift data for controlling a phase shift amount of a pixel clock." In view of the above-noted distinction, Applicants respectfully submit that independent Claims 15, 29, and 38 (and dependent Claims 16-28, and

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[5] Isono, col. 8, lines 47-51
[6] Id,.

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39-44) patentably distinguish over <u>Isono</u> and <u>Hoshino</u>, individually or in combination, for at least the reasons given for Claim 1.
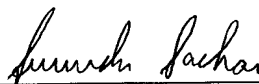
Turning now to the rejection of independent Claim 45 as unpatentable over <u>Kanno</u> in view of <u>Isono</u>, Applicants respectfully traverse the rejection. Claim 45 recites "a lookup table storing a pattern of shift data for controlling a phase shift amount of a pixel clock." In view of the above-noted distinction, Applicants respectfully submit that Claim 45 patentably distinguish over <u>Kanno</u> and <u>Isono</u>, individually or in combination, for at least the reasons given for Claim 1.

Turning now to the rejection of independent Claim 46 as unpatentable over <u>Kanno</u> in view of <u>Isono</u>, and further in view of <u>Hoshino</u>, Applicants respectfully traverse the rejection. Claim 46 recites "a lookup table storing a pattern of shift data for controlling a phase shift amount of a pixel clock." In view of the above-noted distinction, Applicants respectfully submit that Claim 46 patentably distinguish over <u>Kanno</u>, <u>Isono</u>, and <u>Hoshino</u>, individually or in combination, for at least the reasons given for Claim 1.

Consequently, in view of the above amendments and comments, it is respectfully submitted that the outstanding rejection is traversed and that the pending claims are in condition for allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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